

DIR Contract Number: DIR-DCS-MSI-MSA-001

Appendix 11 to Master Services Agreement

May 31, 2016



**Attachment to Data Center Services
Multisourcing Service Integrator
Master Services Agreement**

DIR Contract No. DIR-DCS-MSI-MSA-001

Between

**The State of Texas, acting by and through
the Texas Department of Information Resources**

and

Capgemini America, Inc.

**Attachment 4-E
Service Tier Matrix**

May 31, 2016

The Service Tier Matrix defines the services associated with each tier of service and the entry requirements for each tier of service. It is not intended to modify, supersede or amend any other obligations described in other contract documents, including without limitation Service Provider obligations related to Service Levels, Disaster Recovery, Security or storage.

Consolidated Data Center (ADC/SDC)
Tiered Offering

Notes:

As described in [Exhibit 4](#), the Service Tier Matrix is used to categorize designated server category types into a three tier RU structure for support services. For clarity, Server Instance is the RU measure, not servers.

An instance classified within a tier will receive the support services as defined by that tier. The level of support for these instances is described here with the intent, including the entry requirements, monitoring, storage requirements to enable disaster recovery objectives, and service levels.

Platform service is available by procuring two Gold instances and related hardware charges. There are no incremental charges to implement and support high availability (HA) software and any other architectural requirements necessary to provide HA.

Consolidated Tier/Free RU must meet the Gold tier offering metrics.

S = Standard: service provided within tier

O = Optional: can be added at additional cost as described in [Attachment 6.A](#)

X = Required element for entry to tier

- = Not Available

Offerings	Fully Managed					Definitions and Notes
	Not an RU Platform	Gold	Silver	Bronze	Semi-Managed	
Service Levels						
Availability	99.95%/99.99%	99.97%/99.97%	99.98%/99.77%	99.97%/99.69%	99.95%/99.30%	
Incident Resolution Time - Severity 1	1h	2h	4h	6h	8h	
Incident Resolution Time - Severity 2	2h	3h	6h	10h	24h	
Root Cause Analysis Delivery	10bd	10bd	10bd	10bd	10bd	
Final Successful Recoveries	6h	24h	24h	24h	24h	
Monitoring						
Network Monitoring	S	S	S	S	-	Server IP plus with alerts
Hardware	S	S	S	S	-	Server Up/Down, Hardware specific errors, component monitoring, CPU, Disk Memory, Components of a server)
Operating Level (OS)	S	S	S	S	-	Server Category, Threshold Monitoring of CPU, Memory, filesystem and OS disk)
Dashboard	S	S	S	O	-	DR up/down, DR free space, DR status, etc.
Application Software	S	S	O	O	-	Any process required to support the Application, Process Up/Down, URL, website availability, application file system status and availability.
Middleware Processes	S	S	S	O	-	Process Up/Down, application file system capacity and availability where the standard tools are capable of such operations.
Capacity Utilization Reporting	S	S	-	-	-	Reports on key server resources, such as CPU, Memory, and Disk.
Capacity Management	S	S	-	-	-	Available in Silver/Bronze on an interim basis to support Incident Resolution.
Disk Storage						
Redundant data across sites	S	O *	O *	-	O	For Tier 1, mirroring means an async copy of any disk volume (LUN) stored on an ADC or SDC SAN device replicated for storage at the secondary data center (includes OS volumes as well as data disk).
Point in time copies	S	S	-	-	O	Recovery with Class F or Class L, regional alternatives.
High Availability Infrastructure Services						
Must pick one of the following or an appropriate combination:						
Instance Mobility (where supported by the technology)	S	-	-	-	-	May be available in Gold/Silver/Bronze depending on the hardware platform chosen. Customer may have to purchase additional software.
Hardware Cluster	S	-	-	-	-	May be available in Gold/Silver/Bronze depending on the hardware platform chosen. Customer may have to purchase additional software.
Hardware HA (warm site)	S	-	-	-	-	May be available in Gold/Silver/Bronze depending on the hardware platform chosen. Customer may have to purchase additional software.
Database Clustering	S	-	-	-	-	May be available in Gold/Silver/Bronze depending on the hardware platform chosen. Customer may have to purchase additional software.
Database Failover	S	-	-	-	-	May be available in Gold/Silver/Bronze depending on the hardware platform chosen. Customer may have to purchase additional software.
Recovery Point Objective (Disaster Recovery)						
1h	S	-	-	-	-	Recovery Point Objective - the allowed amount of data lost.
6h	-	S	O *	-	-	Requires data to be on SAN storage, with space available to async replication to secondary site.
1d	-	-	-	-	-	Optional for Silver if Tier 1 storage is used.
4d	-	-	S	S	-	DR Class 1 DR server(s) can have a Gold or Silver Service Tier.
Security (S)						
Host Intrusion Detection (HIDS)	S	S	-	-	-	Tape based recovery based on offsite tape shipping frequency.
Platform Support						
OS F	S	S	-	-	-	Class 2A, Class 2B, and Class 8 server(s) can have either a Gold or Silver Service Tier.
16 x 7 8AM - 6PM	-	-	S	-	-	DR Class 3, Class 4, Class 5, Class 6, and Class 7 server(s) can have Gold, Silver or Bronze Service Tier.
16 x 5 8AM - 6PM	-	-	-	S	-	
24 x 5 8AM - 6PM	-	-	-	-	S	
Entry Requirements for Service Tiers						
(Responsibility for Disaster Recovery levels)						
Class F must have a fully documented disaster recovery plan including who can declare, escalation process, and work breakdown structure for recovery. An annual disaster recovery full exercise will be performed.	X	-	-	-	-	
Class 1 and Class 2A must have a fully documented disaster recovery plan including who can declare, escalation process, and work breakdown structure for recovery. An annual disaster recovery exercise (full recovery or table top) will be performed.	-	X	X	-	-	
Class 2B must have a fully documented disaster recovery plan including who can declare, escalation process, and work breakdown structure for recovery. An annual table top exercise will be performed.	-	X	X	-	-	
Class 3 must have a fully documented disaster recovery plan including who can declare, escalation process, and work breakdown structure for recovery. An annual enterprise table top exercise will be performed.	-	X	X	X	-	
Class 4 should have a documented disaster recovery plan. Disaster Recovery Exercises are not offered for Class 4.	-	X	X	X	-	
Class 5 must have a fully documented disaster recovery plan including who can declare, escalation process, and work breakdown structure for recovery. An annual disaster recovery exercise (full recovery or table top) will be performed.	-	X	X	X	-	
Class 6 and Class 7 must have a fully documented disaster recovery plan including who can declare, escalation process, and work breakdown structure for recovery. An annual table exercise will be performed.	-	X	X	X	-	
Class 8 (existing ServiceCard contracts) should have a documented disaster recovery plan, including who can declare, escalation process, and work breakdown structure for recovery. An annual disaster recovery full exercise will be performed.	-	X	X	-	-	
DCS Customer will ensure the application is able to operate in a highly available (HA) manner and achieve failover within 1 Hour. DCS Customer ensures connectivity to CDC's with appropriate capacity. DCS enables infrastructure failure heartbeat detection and failover initiation, and supplies and configures HA DNS, Loadbalancing, Firewall, etc. components to support automatic failover. DCS also provides CDC to CDC network connectivity for the replication purposes.	X	-	-	-	-	
Production Application must have tiered and pre-prod. There must be equivalent capacity and capability in an alternate data center to support DR.	X	-	-	-	-	
Production Application must have dev/test OS resources separate from production OS resources	X	X	X	-	-	
Online backup required (e.g. database hot-backup) to ensure concurrent backup without impact to availability.	X	-	-	-	-	
Online backup or offline backups can be completed within the scheduled backup window.	-	X	-	-	-	
Offline backups can be completed within the scheduled backup window.	-	-	X	X	-	

The Service Tier Matrix defines the services associated with each tier of service and the entry requirements for each tier of service. It is not intended to modify, supersede or amend any other obligations described in other contract documents, including without limitation Service Provider obligations related to Service Levels, Disaster Recovery, Security or storage.

Non-Consolidated Data Centers Tiered Offering

Notes:

As described in **Exhibit 4**, the Service Tier Matrix is used to categorize designated server category types into a three tier RU structure for support services. For clarity, Server Instance is the RU measure, not servers.

An Instance classified within a tier will receive the support services as defined by that tier. The level of support for these Instances is described here within the matrix, including the entry requirements, monitoring, storage requirements to enable disaster recovery objectives, and service levels.

S = Standard: service provided within tier

O = Optional: can be added at additional cost as described in **Attachment 4-A**

- = Not Available

Offerings:	Fully Managed				Definitions and Notes
	Gold	Silver	Bronze	Semi-Managed	
Service Levels					
Availability	99.88%/99.77%	99.84%/99.73%	99.76%/99.64%	99.50%/99.30%	
Incident Resolution Time - Severity 1	3h	5h	8h	12bh	
Incident Resolution Time - Severity 2	4h	8h	24h	36bh	
Root Cause Analysis Delivery	10bd	10bd	10bd	10bd	
Initiate Successful Recoveries	24h	24h	24h	24h	Recovery initiated time based on once tape is on site
Monitoring					
Network Monitoring	S	S	S	-	Server IP ping with alerts
Hardware	S	S	S	-	Server (Up/Down, Hardware specific errors, component monitoring, CPU, Disk Memory, Components of a server)
Operating Level (OS)	S	S	S	-	Server Capacity Threshold Monitoring (CPU, Memory, filesystem and OS disk).
Database	S	S	O	-	DB up/down, DB free space, DB status, etc.
Application Software	S	O	O	-	Any process required to support the Application. Process Up/Down, URL website availability, application file system capacity and availability.
Middleware Processes	S	S	O	-	Process Up/Down, application file system capacity and availability where the standard tools are capable of such monitoring.
Capacity Utilization Reporting	S	*	*	-	Reports on key server resources, such as CPU, Memory, and Disk. *Available in Silver/Bronze on an interim basis to support Incident Resolution.
Capacity Management	S	*	*	-	Capacity management service that reports historical trends of key server resources. The service will also include monthly analysis by a Capacity Planner and requires business application owner participation. *Available in Silver/Bronze on an interim basis to support Incident Resolution.
High Availability Infrastructure Services					
Cluster/HA/Failover	-	-	-	-	Not available at Non-Consolidated Service Centers as standard services.
Recovery Point Objective					Recovery Point Objective - the allowed amount of data lost.
48h	S	S	S *	-	Tape based recovery based on offsite tape shipping frequency. * Bronze Service Tier is for Class 2B, 3 and 4
Security					
Host Intrusion Detection (HIDS)	S	-	-	-	
Platform Support					Tickets entered outside of service window will be addressed next contracted support period.
24 x 7	S	-	-	-	
15 x 7 6AM - 9PM	-	S	-	-	
12 x 5 M-F 6AM - 6PM	-	-	S	-	
12 x 5 M-F 8AM - 5PM	-	-	-	S	

The Service Tier Matrix defines the services associated with each tier of service and the entry requirements for each tier of service. It is not intended to modify, supersede or amend any other obligations described in other contract documents, including without limitation Service Provider obligations related to Service Levels, Disaster Recovery, Security or storage.

Cloud Data Centers Tiered Offering

Notes:

As described in **Exhibit 4**, the Service Tier Matrix is used to categorize designated server category types into a three tier RU structure for support services. For clarity, Server Instance is the RU measure, not servers.

An Instance classified within a tier will receive the support services as defined by that tier. The level of support for these Instances is described here within the matrix, including the entry requirements, monitoring, storage requirements to enable disaster recovery objectives, and service levels.

S = Standard: service provided within tier

O = Optional: can be added at additional cost as described in **Attachment 4-A**

- = Not Available

	Fully Managed				
Offerings:	Gold	Silver	Bronze	Semi-Managed	Definitions and Notes
Service Levels					
Availability	99.88%/99.77%	99.84%/99.73%	99.76%/99.64%	99.50%/99.30%	
Incident Resolution Time - Severity 1	3h	5h	8h	9h	
Incident Resolution Time - Severity 2	4h	8h	24h	27h	
Root Cause Analysis Delivery	10bd	10bd	10bd	10bd	
Initiate Successful Recoveries	24h	24h	24h	24h	Recovery initiated time based on once tape is on site
Monitoring					
Network Monitoring	S	S	S	-	Server IP ping with alerts
Hardware	S	S	S	-	Server (Up/Down, Hardware specific errors, component monitoring, CPU, Disk Memory, Components of a server)
Operating Level (OS)	S	S	S	-	Server Capacity Threshold Monitoring (CPU, Memory, filesystem and OS disk).
Database	S	O	O	-	DB up/down, DB free space, DB status, etc.
Application Software	S	O	O	-	Any process required to support the Application. Process Up/Down, URL website availability, application file system capacity and availability.
Middleware Processes	S	S	O	-	Process Up/Down, application file system capacity and availability where the standard tools are capable of such monitoring.
Capacity Utilization Reporting	S	*	*	-	Reports on key server resources, such as CPU, Memory, and Disk. *Available in Silver/Bronze on an interim basis to support Incident Resolution.
Capacity Management	S	*	*	-	Capacity management service that reports historical trends of key server resources. The service will also include monthly analysis by a Capacity Planner and requires business application owner participation. *Available in Silver/Bronze on an interim basis to support Incident Resolution.
High Availability Infrastructure Services					
Cluster/HA/Failover	-	-	-	-	Not available at Non-Consolidated Service Centers as standard services.
Recovery Point Objective					Recovery Point Objective - the allowed amount of data lost.
48h	S	S	S *	-	Tape based recovery based on offsite tape shipping frequency. * Bronze Service Tier is for Class 2B, 3 and 4
Security					
Host Intrusion Detection (HIDS)	S	-	-	-	
Platform Support					Tickets entered outside of service window will be addressed next contracted support period.
24 x 7	S	-	-	-	
15 x 7 6AM - 9PM	-	S	-	-	
12 x 5 M-F 6AM - 6PM	-	-	S	-	
12 x 5 M-F 8AM - 5PM	-	-	-	S	

The Service Tier Matrix defines the services associated with each tier of service and the entry requirements for each tier of service. It is not intended to modify, supersede or amend any other obligations described in other contract documents, including without limitation Service Provider obligations related to Service Levels, Disaster Recovery, Security or storage.

Storage Entry Requirements for Disaster Recovery in Consolidated Data Centers

- Tier 1 - Storage Fast i/o optimized: Data is replicated to the alternate CDC site allowing for the fastest recovery
- Tier 2 - Storage Medium i/o optimized: Data is NOT replicated; media or equivalent based recovery
- Tier 3 - Storage Low i/o limited: Data is NOT replicated; media or equivalent based recovery
- Tier 3R - Storage Low i/o limited: Data is replicated at an alternate site
- Tier 4 - Low performance Storage - static or infrequently used data

		Service Tiers			
		Platinum	Gold	Silver	Bronze
Storage Tier	Tier 1 ⁽¹⁾	CP ⁽⁵⁾	C1 ⁽⁷⁾	C1 ⁽⁷⁾	NA ⁽⁶⁾
	Tier 2 ⁽²⁾	NA ⁽⁶⁾	C2A, C2B ⁽⁸⁾ , C3 ⁽⁸⁾ , C4 ⁽⁸⁾ , C6 or C8 ⁽⁸⁾	C2A, C2B ⁽⁸⁾ , C3 ⁽⁸⁾ , C4 ⁽⁸⁾ , C6 or C8 ⁽⁸⁾	C3 ⁽⁸⁾ , C4 ⁽⁸⁾ or C6
	Tier 3 ⁽³⁾	NA ⁽⁶⁾	C6, C7	C6, C7	C6, C7
	Tier 3R ⁽⁴⁾	NA ⁽⁶⁾	C5	C5	C5
	Tier 4	NA ⁽⁶⁾			
Rules for Combinations and Legend					
(1) Fast replicated Storage to Fast Storage Data is replicated to the alternate CDC site allowing for the fastest recovery Recommended for any production application with time critical availability					
(2) Non replicated Fast Storage Data is NOT replicated; media or equivalent based recovery Target server has at least the amount of storage as the source Billing occurs for Tier 2 storage at both datacenters					
(3) Storage at the primary location can be used for only non transactional data and approved by Xerox Data is NOT replicated; media or equivalent based recovery Storage at the alternate location is repurposed on either fast or slow storage Target storage capacity must be at least as large as source					
(4) Storage at the primary location can be used for only non transactional data and approved by Xerox Data is replicated at an alternate site Storage at the alternate location is repurposed on either fast or slow storage Target storage capacity must be at least as large as source					
(5) Tier 1 Storage is required for Platinum support and Platinum DR					
(6) Storage Tier not available for the corresponding Service Tier					
(7) Tier 1 Storage is required for Class 1					
(8) Storage Tier available at CDC or LDC					

The Service Tier Matrix defines the DR services available with each tier of service and the entry requirements for each tier of service. It is not intended to modify, supersede or amend any other obligations described in other contract documents, including without limitation Service Provider obligations related to Service Levels, Disaster Recovery, Security or storage.

Disaster Recovery

Consolidated Data Centers					Disaster Recovery Exercises	Disaster Recovery RUs
Platinum	Gold	Silver	Bronze			
Disaster Recovery - RTO					Recovery Time Objective - time to restore systems after the disaster has been declared	
Class P: 1h	S	-	-	-	Application and Infrastructure must support hot standby and semi-automated failover between sites. Requires 2 gold servers.	Full Recovery Exercise
Class 1: 72hrs	-	S	S	-	Target server is repurposed during a disaster event. Replicated Tier 1 storage is used to restore target server and data.	Full Recovery Exercise
Class 2A: 7d	-	S	S	-	Media based recovery. Target server and target storage are repurposed during a disaster event. Target storage data is replaced with recovery data.	DCS Customer Tabletop Exercise or Full (upon request during annual planning cycle)
Class 2B: 14d	-	S	S	-	Media based recovery. Target server and target storage are repurposed during a disaster event. Target storage data is replaced with recovery data.	DCS Customer Tabletop Exercise
Class 3: 21d	-	S	S	S	Media based recovery. Target server and storage are acquired as needed at the time of disaster.	Enterprise Tabletop Exercise or DCS Customer Tabletop Exercise (upon request during annual planning cycle)
Class 4: Low Priority	-	S	S	S	Data is saved for future/best effort recovery.	Disaster Recovery Exercises are not offered for Class 4 (no RTO)
Class 5: 7d	-	S	S	S	Non- Transactional Data only. Target server is repurposed during a disaster event. Replicated Tier 3 storage is used to restore target server and data.	DCS Customer Tabletop Exercise or Full (upon request during annual planning cycle)
Class 6: 14d	-	S	S	S	Non- Transactional Data only. Media based recovery. Target server is repurposed during a disaster event. Target storage is non-replicated preallocated slow storage.	DCS Customer Tabletop Exercise
Class 7: 14d	-	S	S	S	Non- Transactional Data only. Media based recovery. Target server is repurposed during a disaster event. Target storage is non-replicated repurposed slow/fast storage.	DCS Customer Tabletop Exercise
Class 8: per contract	-	S	S	-	Existing SunGard contracts only.	Full Recovery Exercise

Non-Consolidated Data Centers					Disaster Recovery Exercises	Disaster Recovery RUs
Platinum	Gold	Silver	Bronze			
Disaster Recovery - RTO					Recovery Time Objective - time to restore systems after the disaster has been declared	
Class 2B: 14d	-	S	S	S	Media based recovery. Target server and target storage are repurposed during a disaster event. Target storage data is replaced with recovery data.	DCS Customer Tabletop Exercise
Class 3: 21d	-	S	S	S	Media based recovery. Target server and storage are acquired at the time of disaster.	Enterprise Tabletop Exercise or DCS Customer Tabletop Exercise (upon request during annual planning cycle)
Class 4:	-	S	S	S	Data is saved for future/best effort recovery.	Disaster Recovery Exercises are not offered for Class 4 (no RTO)
Class 8: per contract	-	S	S	-	Existing SunGard contracts only.	Full Recovery Exercise

Potential Combinations of Support Tiers and DR Consolidated Data Centers					
		Service Support Tier			
		Platinum	Gold	Silver	Bronze
DR Class	Class P (1 hour)	Available	N/A	N/A	N/A
	Class 1 (72 hours)	N/A	Available	Available	N/A
	Class 2A (7 days)	N/A	Available	Available	N/A
	Class 2B (14 days)	N/A	Available	Available	N/A
	Class 3 (21 days)	N/A	Available	Available	Available
	Class 4 ⁽¹⁾ (Best Effort)	N/A	Available	Available	Available
	Class 5 ⁽²⁾ (7 days)	N/A	Available	Available	Available
	Class 6 ⁽²⁾ (14 days)	N/A	Available	Available	Available
	Class 7 ⁽²⁾ (14 days)	N/A	Available	Available	Available
	Class 8 ⁽³⁾ (per contract)	N/A	Available	Available	N/A

Non-Consolidated Data Centers					
DR Class		Service Support Tier			
		Platinum	Gold	Silver	Bronze
	Class 2B (14 days)	N/A	Available	Available	N/A
	Class 3 (21 days)	N/A	Available	Available	Available
	Class 4	N/A	Available	Available	Available
	Class 8 ⁽³⁾ (per contract)	N/A	Available	Available	N/A

Rules for Combinations and Legend	
Support Tier and DR Level combination is available	
Support Tier and DR Level combination is NOT available	
(1) Class 4 level items will be recovered in a disaster on a best effort basis regardless of Service Tier.	
(2) May have server performance degradation; Slow disk performance - not recommended for transactional data. Agency Assumes the risk that the application will provide acceptable performance on slower disk.	
(3) Existing SunGard contracts only	